

What is claimed is:

1. A system, comprising:

two or more arrays spaced apart from each other to define an interrogation region  
5 therebetween, the arrays each being structured to turn about the interrogation region to  
interrogate a person in the interrogation region with electromagnetic radiation at one or  
more frequencies in a range of about 200 MHz to about 1 THz to provide corresponding  
interrogation signals; and

one or more processors operable to establish data corresponding to a  
10 topographical image determined from the interrogation signals and generate an output as  
a function of the data;

a device responsive to the output to provide an indication to an operator if the  
person is suspected of carrying one or more concealed objects that pose a threat to  
security.

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2. The system of claim 1, wherein the arrays are each provided with a panel and a  
mechanism to move a corresponding one of the arrays along a curvilinear path about the  
interrogation region.

20 3. The system of claim 2, wherein the curvilinear path approximates an arc of a  
circle.

4. The system of claim 2, wherein the panel for each of the arrays is at least partially transparent to facilitate viewing therethrough by an operator.

5. The system of claim 1, wherein the device includes a display and the one or more processors include means for generating the output in a form representative of one or more cross sectional views of the person.

6. The system of claim 1, wherein the arrays are each structured to operate at several different frequencies and each correspond to an arc about the interrogation region subtending an angle of at least 120 degrees.

7. The system of claim 1, wherein the one or more processors are operable to generate the data by combining data sets corresponding to a number of different cylindrical images and the arrays are each structured to provide a semi-cylindrical scan.

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8. A method, comprising:

providing two or more arrays each shaped to turn about a person positioned between the arrays;

operating the arrays to perform an interrogation of the person with electromagnetic radiation at one or more frequencies in a range of about 200 MHz to about 1 THz; and

generating cylindrical image data corresponding to a number of cylindrical images from the interrogation to detect if the person is concealing an object.

9. The method of claim 8, which includes moving each of the arrays along a path positioned about the person.
- 5 10. The method of claim 9, wherein at least a portion of the path is curvilinear and the path subtends an angle of at least 120 degrees relative to the person.
11. The method of claim 9, wherein at least a portion of the path is rectilinear.
- 10 12. The method of claim 8, which includes displaying one or more cross sectional views of the person based on the topographical image data.
13. The method of claim 8, which includes generating topographical image data from the cylindrical image data.
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14. The method of claim 8, wherein the arrays oppose one another to define an interrogation region therebetween and are arranged to provide a security checkpoint.
15. A method, comprising:
- 20 generating electromagnetic radiation at one or more frequencies in a range of about 200 MHz to about 1 THz with two or more arrays to perform an interrogation of a person positioned between the two or more arrays;

moving at least one of the arrays along a nonstraight path about the person during the interrogation; and

generating topographical image data from the interrogation to detect if the person is concealing an object.

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16. The method of claim 15, wherein the path subtends an angle of at least 90 degrees relative to the person.

17. The method of claim 15, wherein the path subtends an angle of at least 120  
10 degrees relative to the person.

18. The method of claim 15, wherein the arrays number two and oppose one another to define an interrogation region therebetween and are arranged to provide a security checkpoint, and at least a portion of the path is curvilinear or rectilinear.

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19. The method of claim 15, which includes displaying one or more cross sectional views of the person based on the topographical image data.

20. The method of claim 15, which includes generating the topographical image data  
20 from a number of cylindrical image data sets.

21. A method, comprising:

performing an interrogation of a person with electromagnetic radiation including one or more frequencies in a range of about 200 MHz to about 1 THz;

generating one or more cross-sectional images of the person based on the interrogation; and

5 determining if the person is carrying a concealed object that poses a threat to security from at least one of the one or more cross-sectional images.

22. The method of claim 21, wherein said generating includes providing the one or more cross-sectional images from a number of data sets each corresponding to a different  
10 cylindrical image of the person.

23. The method of claim 21, wherein said performing including moving a pair of opposed arrays about the person along a nonstraight path.

15 24. The method of claim 23, wherein the nonstraight path subtends an angle of at least 90 degrees.

25. The method of claim 23, wherein the arrays are each operable to provide the electromagnetic radiation at a plurality of different frequencies.

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26. The method of claim 21, wherein said determining includes displaying the one or more cross-sectional images to an operator.